Technical Data
Data Sheet N2587, Rev.B

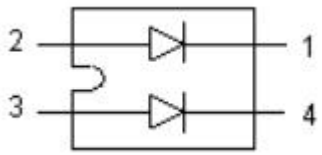
# SK2S320-200 Power Schottky Rectifier


SOT-227

## Features

- International standard package SOT-227
- Epoxy meets UL 94V-0
- Extremely low switching losses
- Low $I_{RM}$ -values
- Copper internally DBC isolated
- Base plate: Nickel plated; Terminals: Nickel plated
- UL approved file E517293
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

## Circuit Diagram




## Applications

- Rectifiers in switch mode power Supplies(SMPS)
- Free wheeling diode in low voltage Converters

## Advantages

- High reliability circuit operation
- Low voltage peaks for reduced Protection circuits
- Low noise switching
- Low losses

## Maximum Ratings(limiting values, $T_C$ =25°C unless otherwise specified)

| Characteristics | Symbol | Condition | Max. | Units |
|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | - | 200 | V |
| Average Forward Current | $I_{F(AV)}$ | $T_C$ =100°C, In DC | 160(Peg Leg)<br>320(Peg Device) | A |
| Peak One Cycle Non-Repetitive Surge Current (Peg Leg) | $I_{FSM}$ | 8.3 ms, half Sine pulse | 2000 | A |
| Total Power Dissipation | $P_{tot}$ | $T_C$=25˚C | 310 | W |
| Peak repetitive reverse current per leg | Irrm | tp = 2 µs, 1 kHz | 2 | A |

**Technical Data**
**Data Sheet N2587, Rev.B**

RoHS

## Electrical Characteristics:

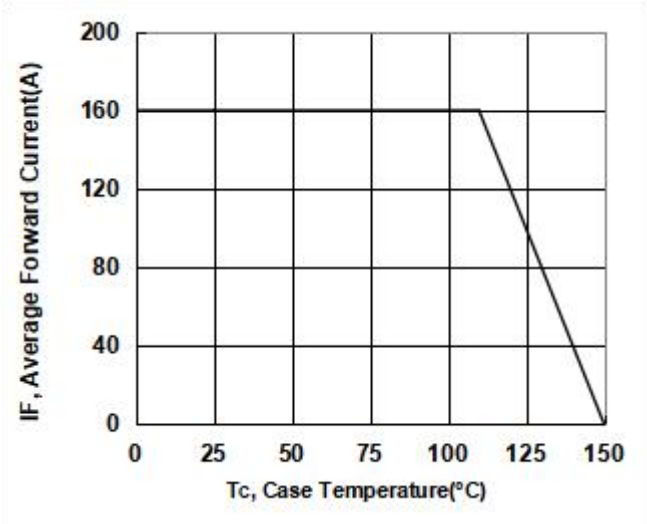
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|---|---|---|---|---|---|
| Forward Voltage Drop(Per Leg)* | $V_{F1}$ | @ 160A, Pulse, $T_J$ = 25 °C | 0.98 | 1.02 | V |
| | $V_{F2}$ | @ 160A, Pulse, $T_J$ = 125 °C | 0.86 | 0.92 | V |
| Reverse Current(Per Leg)* | $I_{R1}$ | @$V_R$ = rated $V_R$, $T_J$ = 25 °C | 0.0006 | 1 | mA |
| | $I_{R2}$ | @$V_R$ = rated $V_R$, $T_J$ = 125 °C | 5 | 30 | mA |
| Isolation Voltage | $V_{ISOL}$ | Ac.50Hz; R.M.S;1min, $T_J$ = 25 °C | - | 2500 | V |
| | | Ac.50Hz; R.M.S;1sec, $T_J$ = 25 °C | - | 3500 | |

* Pulse width < 300 μs, duty cycle < 2%

## Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|---|---|---|---|
| Junction Temperature | $T_J$ | - | -40 to +150 | °C |
| Storage Temperature | $T_{stg}$ | - | -40 to +150 | °C |
| Thermal Resistance Junction to Case(Peg Device) | $R_{\theta JC}$ | DC operation | 0.3 | °C/W |
| Mounting torque(M4) | $M_D$ | - | 1.1-1.5/9-13 | Nm/ lb.in. |
| Terminal connection torque(M4) | | | 1.1-1.5/9-13 | |
| Typical Approximate Weight | wt | - | 30 | g |

## Ratings and Characteristics Curves




**Forward Current VS Case temperature Diode**

Figure1 Typical Forward Characteristics

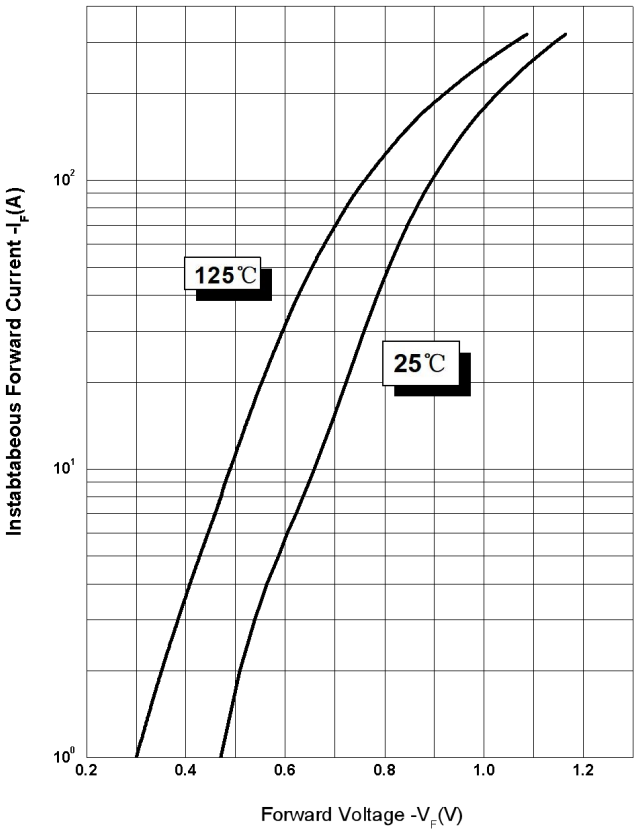



Figure 2 Typical Reverse Characteristics

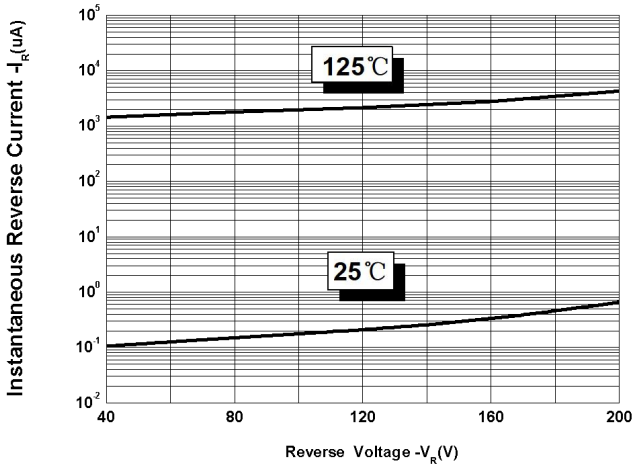
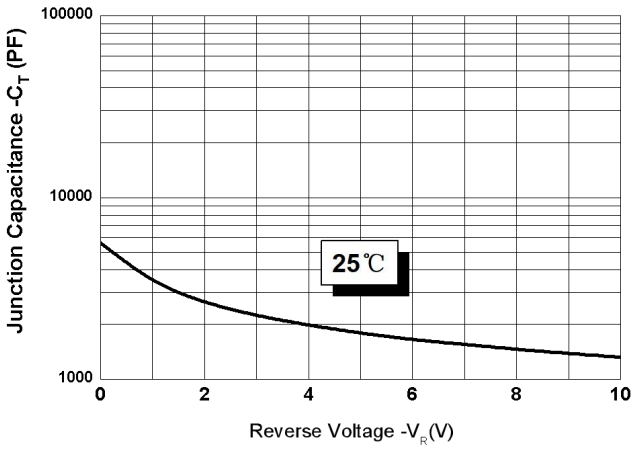



Figure 3 Typical Junction Capacitance



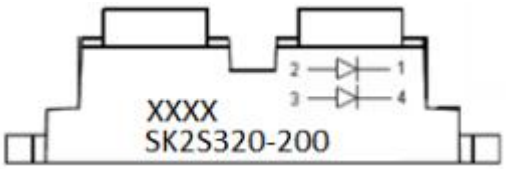
# SK2S320-200

**Technical Data**
**Data Sheet N2587, Rev.B**

## Ordering Information

| Device | Package | Shipping |
|---|---|---|
| SK2S320-200 | SOT-227 (Pb-Free) | 36pcs /BULK |

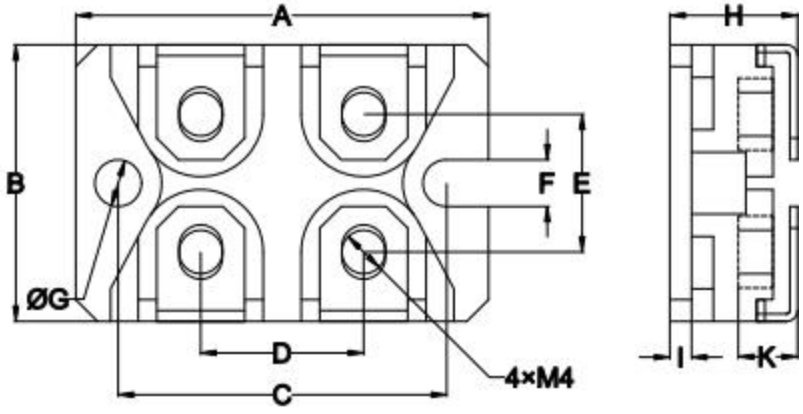
## Marking Diagram




Where XXXX is YYWW

| | |
|---|---|
| S | = SMC's Power Module |
| K | = SOT-227 Package |
| 2 | = Circuit Configuration |
| S | = Schottky Rectifier |
| 320 | = Forward Current (320A) |
| 200 | = Reverse Voltage (200V) |
| YY | = Year |
| WW | = Week |

## Mechanical Dimensions SOT-227(Millimeters)




| SYMBOL | Dimensions in millimeters | |
|---|---|---|
| | Min. | Max. |
| A | 37.8 | 38.2 |
| B | 24.8 | 25.21 |
| C | 29.9 | 30.55 |
| D | 14.5 | 15.5 |
| E | 12.2 | 13.45 |
| F | 4.1 | 4.31 |
| G | φ4.1 | φ4.31 |
| H | 11 | 12.5 |
| I | 1.9 | 2.1 |
| K | 4.3 | 6.5 |

**Technical Data**
**Data Sheet N2587, Rev.B**

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